## ABSTRACT OF THE DISCLOSURE

A process for producing an epoxidized elastomeric polymer by feeding at least one elastomeric polymer containing ethylenic unsaturation to a mixing device; feeding at least one hydrogen peroxide precursor to the mixing device; feeding at least one carboxylic acid or a derivative thereof to the mixing device; mixing and reacting, in the presence of water, the at least one elastomeric polymer containing ethylenic unsaturation with the at least one hydrogen peroxide precursor and the at least one carboxylic acid or a derivative thereof, to obtain an epoxidized elastomeric polymer; and discharging the resulting epoxidized elastomeric polymer from the mixing device.